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PACING DELAY

The Practical Effect on Construction
Projects & Delay Claims

About the Speaker



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- Director, Navigant Consulting, Inc. - New York
- 20 years experience in analysis of construction & manufacturing projects
- Performed forensic & proactive investigations of many complex projects including
 - ✓ World Trade Center Redevelopment
 - ✓ Central Artery Project
- Experienced in schedule delay analysis, errors & omissions review, productivity analysis, disputed extra work review, cost accounting & damages quantification
- Testified as an expert in mediation & arbitration
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About the Speaker



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- **Executive Director, Navigant Construction Forum™**
- **More than 40 years experience in construction management & dispute analysis & resolution**
- **Involved in more than 5,000 claims throughout U.S., Canada, Egypt, Chile, China, Guatemala, Germany, Kazakhstan, Netherlands, Peru, Saudi Arabia, Russian Federation, Trinidad & Tobago, & Venezuela**
- **Fellow of AACE International & Royal Institution of Chartered Surveyors**
- **Former President, AACE International; founder of the CDR Committee; Executive Sponsor of PSP, CEP, EVP & CFCC Certifications**
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- **CCM, CFCC & PMP**

Introduction

- **Original paper on delay claims published in 1999**
 - ✓ **Then – a new type of delay**
 - ✓ **Named it “Pacing Delay”**
 - ✓ **Little explored in literature & few Court cases**
- **Was & remains highly controversial**
- **Purpose of this presentation**
 - ✓ **Identify “Pacing”**
 - ✓ **Offer definitions of term**
 - ✓ **Discuss practical impacts & results of “Pacing”**
 - ✓ **Offer recommendations on management of “Pacing”**

Dealing with Delay

- **Most contracts allocate risk of delay**
 - ✓ **Allocate responsibility to party causing delay**
 - ✓ **Or, share risk for third party delay**
- **Responsibility for delays defined in terms of—**
 - ✓ **Risk assignment**
 - ✓ **Risk assumption**
 - ✓ **Risk sharing**

4 Types of General Delays

- **1) Non-Excusable Delay**
 - ✓ Contractor caused (including subs, suppliers, etc.)
 - ✓ Contractor at fault
 - ✓ Contractor receives no time, no money
 - ✓ Contractor pays late completion damages (LDs) or makes up lost time at own expense

- **2) Excusable Delay**
 - ✓ Third party caused or Force Majeure delay
 - ✓ Neither owner or contractor at fault
 - ✓ Contractor receives time extension, no delay damages
 - ✓ Owner grants time, gives up LDs

4 Types of General Delays, cont...

- **3) Compensable Delay**
 - ✓ **Owner at fault (including owner representatives)**
 - **Contractor receives time extension & delay damages**
- **4) Concurrent Delay**
 - ✓ **Two or more “inextricably intertwined” delays, within same timeframe, either of which would have caused delay on its own**
 - ✓ **Generally, “No harm, no foul” rule applied**
 - **Contractor received time extension, no delay damages**
 - **Owner grants time, forfeits right to LDs**

Pacing Delay - Introduction

- **Situation** – When contractor realizes owner delay has/will impact critical path, there are 2 choices
 - ✓ Maintain original schedule regardless
 - ✓ Pace owner delay
- If pace owner delay is chosen, there are some considerations
 - ✓ Slow down non-critical activities
 - ✓ Reason – “Why hurry up & wait?”
- **Pacing delay = Deceleration**
 - ✓ *Deliberate slowing down* of selected work activities to keep pace with owner delay
- Pacing delay may or may not be concurrent delay

Pacing Delay - Definitions

➤ 1999 Paper—

“Deceleration of the work on the project, by one of the parties to the contract, due to a delay or potential delay to the end date of the project caused by the other party, so as to maintain steady progress with the revised overall project schedule”

➤ Alternative Definition in 2005 Paper –

“A delay resulting from a conscious and contemporaneous decision to pace progress of an activity against another activity experiencing delay due to an independent cause”

Types of Pacing Delay

- **Direct Pacing**
 - ✓ When duration of successor activity extended due to delay to predecessor activity
 - ✓ Example – Wire pulling delayed due to slow conduit installation
 - ✓ Pacing delay, not concurrent delay
- **Indirect Pacing**
 - ✓ The paced activity has no dependency on the decelerated activities
 - ✓ Example – Contractor slows down piping installation in one area of project due to owner delay in another area of project

Examples of Pacing Delay

- OFCI delays
- Parallel prime delays
- Other owner delays
 - ✓ Permit delays
 - ✓ Site availability
 - ✓ Differing site conditions
 - ✓ Change orders
- Owners may pace contractor delays also
 - ✓ Slow down submittal reviews & RFI responses when recognize contractor “not ready to proceed with work”

Pacing Delay – Contractor’s Legal Right

- Contract often require “...contractors must diligently pursue the work”
- However...
 - ✓ Nearly all contract provide implied warranty that allows contractor to enjoy least cost performance
 - ✓ Contractors driven to decrease costs & increase profit
- Do contractors have legal right to slow down work to pace owner delay
- Are contractors obligated to maintain original schedule in face of owner caused delay
- Contractors must find balance between “pursue work diligently” & “mitigate owner damages”

Pacing Delay – Contractor’s Legal Right

“When a significant owner caused ... delay ... occurs, the contractor is not necessarily required to conduct all his other construction activities exactly according to his pre-delay schedule and without regard to the changed circumstances resulting from the delay”

John Driggs Company, Inc. – 1987

Pacing Delay – Contractor’s Legal Right

“Where the government causes delay to the critical path, it is permissible for the contractor to relax its performance of its work to the extent that it does not impact project completion”

Utley-James, Inc. – 1985

Pacing Delay – Contractor’s Legal Right

- Contractors have “no duty to hurry up & wait” during owner caused delay
 - ✓ *C.E.R., Inc. – 1996*
- Contractors must mitigate delaying effect of owner delays
 - ✓ *Amelco Electric – 1996*
- Contractors can be merely pacing work by utilizing available float caused by owner delay
 - ✓ *Tyger Construction Co., Inc. v U.S. -- 1994*

Pacing Delay – Contractor’s Legal Right

- Float an available resource to be utilized by all parties in “good faith”
 - ✓ *Titan Pacific Construction Corp. – 1987*

- Once excusable delay encountered by contractor, contractor may reschedule work without fear of [being] held responsible for concurrent delay
 - ✓ *John Driggs Company, Inc. – 1987*

Pacing Delay – Contractor’s Legal Right

- Contractor’s legal right to pace owner delay (slow down work) recognized & acknowledged
- Similar to other contractor rights recognized by Board & Courts
 - ✓ Selection of means & methods
 - ✓ Use of project float time
 - ✓ Right to compete work early
- Similarity of decisions—
 - ✓ Contractors have right to manage own work, for own benefit provided it doesn’t violate contract of harm owner position!

Pacing Delay – Practical Problems

- **Lack of Definition**
 - ✓ **Term used casually**
 - ✓ **Most do not know definition**
 - ✓ **Contracts do not include definition of “pacing delay”**
 - ✓ **Likewise, contracts rarely define “concurrent delay”**
 - ✓ **Result – When pacing delay issue raised, owners easily conclude this is concurrent delay**

Pacing Delay – Practical Problems

➤ Notice Issue

- ✓ **Contracts always require notice of delay**
 - **When owner delay arises, contractors obligated to give notice**
 - **Since pacing not recognized in contracts, contractors may mistakenly believe no notice requirement**
- ✓ **When pacing delay asserted, owners respond with “no notice, no delay” defense**
- ✓ **In absence of written notice contractors argue**
 - **Constructive notice – Schedule updates showed pacing**
 - **Actual notice – Discussed in routine project meetings**
 - **Lack of prejudice – What would you have done differently?**
- ✓ **Issue left to arbitration panel or court to decide**

Pacing Delay – Practical Problems

- **No Contractual Control**
 - ✓ **Need GC/GR clause concerning pacing delay**
 - ✓ **Require written notice within “x” days**
 - ✓ **Set forth what must be included in notice**
 - **What activities delayed by owner?**
 - **What activities will be paced?**
 - **How will the activities be paced?**
 - **Estimated cost (savings & additions) of pacing? (e.g., *reduced supervision, reduced premium time, demobe & remobe, etc.*)**
 - ✓ **Require written “pacing plan” submitted within “x” days after notice**
 - ✓ **Require meeting to finalize pacing plan including compensation issues**

Pacing Delay – Practical Problems

- **Pacing Concept**
 - ✓ Save money by slowing down work
- **Risk**
 - ✓ Owner caused delay resolved suddenly & contractor cannot recover quickly from deceleration
 - ✓ Can't remobilize labor crews quickly
 - ✓ Can't return equipment to site promptly
 - ✓ Can't speed up material deliveries
- **Result** – *Pacing delay may become critical path delay!*

Pacing Delay – Practical Problems

- **Examples of Pacing Risk**
 - ✓ **Owner opts to provide long lead equipment**
 - ✓ **Owner advises contractor of delivery dates**
 - ✓ **Contractor working toward delivery dates**
 - ✓ **Owner advises OFCI equipment will be delivered late**
 - **Delivery now October 30 vs. planned August 15**
 - ✓ **Contractor decides to pace late OFCI delivery**
 - **Lays off some crews to slow down prep work & stretch it out**
 - ✓ **In September owner advises revised OFCI delivery date now October 1**
 - ✓ **Contractor's paced activities will now be on the critical path since prep work for OFCI equipment not done!**

Pacing Delay – Practical Problems

- **Impact of Pacing on Forensic Schedule Analysis**
- **Boards & Courts demand CPM schedule analysis when making delay claims – both excusable & compensable**
- **AACE’s RP 29R-03, Forensic Schedule Analysis, provides 9 methodologies for delay analysis**
 - ✓ **All methodologies meet test of CPM based delay analysis**
- **All methods attempt to calculate “when project would have completed but for owner caused delay”**

Pacing Delay – Forensic Schedule Analysis

- **MIP 3.1 – Observational/Static/Gross**
 - ✓ **AKA – As Planned vs As Built**
- **Technique compares baseline schedule with as built schedule**
 - ✓ **Calculates the difference**
 - ✓ **Assumes all delay caused by other party**
 - ✓ **Unless analyst allocates delay responsibility**
 - ✓ **No delay allocation = “total time claim” & tests very difficult to meet**
- **Since method adds all delays to as planned schedule, ignores reality of what happened on job**
- **MIP 3.1 not favored by Courts & Boards**

Pacing Delay – Forensic Schedule Analysis

- **MIP 3.2 – Observational/Static/Periodic**
 - ✓ **AKA – Windows Analysis**
- **Observes schedules a “slice at a time”**
- **Compares each schedule update to previous update**
 - ✓ **Calculates difference in projected end date**
- **Determines which activities caused delay**
 - ✓ **And, which party caused impact to activities**
 - ✓ **No attempt to modify activities on schedule updates**
- **Method may show concurrency & pacing**

Pacing Delay – Forensic Schedule Analysis

- **MIP 3.3 – Observational/Dynamic/ Contemporaneous As Is**
 - ✓ **AKA – Contemporaneous Period Analysis, Time Impact Analysis, Windows Analysis**
- **Uses schedule updates to quantify gain/loss along the CP but uses dynamic logic**
 - ✓ **But relies on forward looking calculations at time of update to determine impact to CP**
 - ✓ **Hard to distinguish schedule variances between non-progress and insufficient progress**
- **Method should show concurrent & pacing delay**

Pacing Delay – Forensic Schedule Analysis

- **MIP 3.4 – Observational/Dynamic/ Contemporaneous Split**
 - ✓ **AKA – Contemporaneous Period Analysis, Time Impact Analysis, Windows Analysis**
- **Identical to MIP 3.3 except it is a two step process**
 - ✓ **First – Update only actual progress without any non-progress revisions**
 - ✓ **Second – Add in non-progress & other schedule revisions**
 - ✓ **Observe difference between 1st and 2nd updates**
- **Method may mask concurrent & pacing delay**

Pacing Delay – Forensic Schedule Analysis

- **MIP 3.5 – Observational/Dynamic, Modified or Recreated**
 - ✓ **AKA – Contemporaneous Period Analysis, Time Impact Analysis, Windows Analysis**
- **Looks like above 2 methodologies except that**
 - ✓ **Uses schedule updates that were extensively modified or “updates” that were completely created**
 - ✓ **Used when schedule updates not available or never created**
- **Method an “after the fact” analysis not based on contemporaneous updates**
 - ✓ **Not favored by Courts & Boards**

Pacing Delay – Forensic Schedule Analysis

- **MIP 3.6 – Modeled/Additive/Single Base**
 - ✓ **AKA – Impacted As Planned, Time Impact Evaluation**
- **All delays (caused by other party) added to baseline or as planned schedule at one time**
 - ✓ **Typically used prospectively to analyze potential impact of pending change order**
- **Retrospectively – a hypothetical model**
- **Methodology cannot deal with changes in logic or durations, concurrent or pacing delay**
- **MIP 3.6 not favored by Courts & Boards**

Pacing Delay – Forensic Schedule Analysis

- **MIP 3.7 – Modeled/Additive/Multiple Base**
 - ✓ **AKA – Time Impact Analysis, Windows Analysis, Impacted As Planned**
- **Delays added a window at a time (i.e., to each previous schedule update) to determine potential impact to CP**
- **Each update becomes baseline for next update**
- **If all delays (owner & contractor) added to schedule updates in chronological order, should show concurrency & pacing**

Pacing Delay – Forensic Schedule Analysis

- **MIP 3.8 – Modeled/Subtractive/Single Simulation**
 - ✓ **AKA – Collapsed As Built, But For Schedule**
- **Extracts owner delays from as built schedule to determine when project would have completed “but for” delays**
 - ✓ **Not remove delays, “zeroes out” duration**
 - ✓ **Schedule shrinkage determines when job “would have” completed**
 - ✓ **Difference between “would have” & actual dates is owner delay**
 - ✓ **After the fact reconstruction reduces credibility**
- **May/may not show concurrency & pacing**

Pacing Delay – Forensic Schedule Analysis

- **MIP 3.9 – Modeled/Subtractive/Multiple Base**
 - ✓ **AKA – Collapsed As Built, But For , Time Impact Analysis, Windows Analysis**
- **Like previous method, removes owner delays from as built schedule**
 - ✓ **But, does so in a reverse chronological order**
 - ✓ **Backs out schedule analysis one period at a time starting with the as built schedule**
- **May/may not show concurrency & pacing**

Pacing Delay – Forensic Schedule Analysis

- All 9 methodologies meet CPM test mandated by Courts & Boards
- But those that do not rely on contemporaneous schedule updates are unlikely to be persuasive
 - ✓ MIPs 3.1, 3.5, 3.6, 3.8 & 3.9
- All methods attempt to calculate “when project would have completed but for owner delay” in one for or another
- Regardless – *Pacing delay decreases amount of owner delay & reduces delay damages owed by owner!*

Proof of Damages

“It is axiomatic that a contractor asserting a claim against the Government must prove not only that it incurred the additional costs making up its claim but also that such costs would not have been incurred but for Government action”

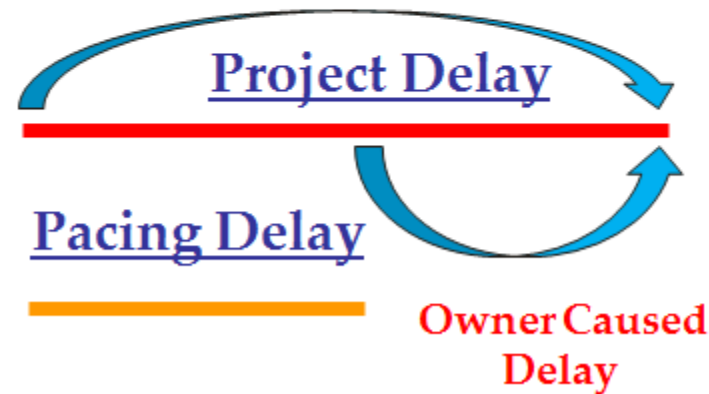
Fishbach & Moore International Corp. – 1976

Forensic Schedule of Analysis

Planned Project Completion

Actual Project Completion

Claimed Delay



Pacing Delay – Damages Recoverable?

- Initially, contractors assert pacing delay to get relief from LDs
- Contractors also seek recovery of cost incurred (if any) arising from pacing
- Also argue entitlement to compensable delay for amount of time paced
- Question – Contractors entitled to additional compensation for pacing?

Pacing Delay – Damages Recoverable?

- **Hypothetical Damages**
 - ✓ Contractor entitled to duration of owner caused delay
 - Difference between when project ended & when would have ended but for owner delay
 - ✓ Entitled to compensation for pacing delay time?
 - ✓ Pacing time not easily calculated
 - ✓ Pacing helps avoid costs
 - ✓ Pacing delay costs = hypothetical damages (?)

Pacing Delay – Damages Recoverable?

- **Self-Imposed Delay**
 - ✓ **Pacing is a business decision made solely by contractor**
 - **True – Situation develops from owner delay but contractors decide to pace on their own**
 - ✓ **To extent pacing incurs cost, cost results from contractor decision**
 - ✓ **Contractors not typically due compensation for own decisions**

Pacing Delay – Damages Recoverable?

➤ Float Consumption

- ✓ Owner caused delay on critical path creates day of float for every day of delay
 - Float caused by owner delay in addition to & different from float in schedule prior to owner delay – i.e., owner created float
- ✓ Pacing owner delay consumes float on day by day basis whether on critical path or subcritical path
- ✓ Contractors generally not entitled to compensation for float consumption

Pacing Delay – Damages Recoverable?

➤ Concurrent Delay

- ✓ When it can be shown that contractor pacing overlaps owner delay, this is concurrent delay
 - Example: When contractor pacing along critical path overtakes owner delay on critical path
- ✓ Contractors not entitled to compensation for concurrent delay

Pacing Delay – Damages Recoverable?

- **Impact Damages**
 - ✓ Assuming contractor provides written notice
 - ✓ Should prepare “pacing plan”
 - ✓ Identify activities delayed by owner
 - ✓ Identify activities contractor plans to pace
 - ✓ Estimate pacing cost (e.g., *work around cost*)
 - ✓ Estimate delay cost – cost to owner if contractor maintains original schedule – (e.g., *extended overheads*)
 - ✓ Plan must demonstrate pacing will mitigate owner damages – *Owner Caused Delay Cost – Pacing Cost*
 - ✓ May be able to negotiate compensation for impact costs

Pacing Delay – Owner Defenses

- **No notice, no claim**
 - ✓ If contractor paces owner delay but does not provide notice of pacing
 - ✓ Owner may argue “no notice, no claim”
 - ✓ In many jurisdictions lack of notice enforceable
 - ✓ In other jurisdictions owners may argue lack of notice deprived them of opportunity to mitigate damages
 - ✓ Argument may be persuasive to arbitration panel or court

Pacing Delay – Owner Defenses

- **Contractor Caused Impact & Delay**
 - ✓ **Owner caused delay**
 - ✓ **But pacing entirely a contractor decision**
 - ✓ **To extent damages incurred, they result from contractor decision**
 - ✓ **Owner not liable for decisions made solely & voluntarily by contractor**
 - ✓ **Contractors not entitled to compensation for contractor caused damages**

Pacing Delay – Owner Defenses

➤ Concurrent Delay

- ✓ If paced activities on subcritical paths*
- ✓ Owners may be able to argue that owner delay & paced activities overlap one another
- ✓ Owners may be successful in arguing this is concurrent delay
- ✓ Contractors not entitled to compensation for concurrent delay

* “Subcritical path” = Any chain of activities with less than 30 cd’s or 20 wd’s of float

Pacing Delay – Owner Defenses

- **Float Consumption**
 - ✓ **Once owner delay impacts critical path**
 - ✓ **Critical path delayed day for day**
 - ✓ **Creates float for all other activities**
 - **But, float caused by owner delay is in addition to & different from float in schedule prior to owner delay – i.e., owner created float**
 - ✓ **Pacing consumes float created by owner delay**
 - ✓ **Contractors not entitled to compensation for float consumption**

Pacing Delay – Owner Defenses

- Potential outcome of defenses

***May relieve owner of some or all
delay damages that would
otherwise be owed!***

Pacing Delay – Recommendations for Contractors

- Maintain detailed, routinely updated schedule
- Provide timely notice of delay if encounter owner delay
- Analyze owner delay
 - ✓ Determine if pacing logical & cost effective
- If so, provide written notice of pacing to owner
- Prepare written pacing plan
 - ✓ Include cost of pacing vs cost of delay
 - ✓ Submit plan to owner, seek agreement of mitigation cost
- Document what activities slowed down & how
- Carefully track all pacing costs

Pacing Delay – Recommendations for Contractors

- **Include specific definitions in contracts**
 - ✓ **Concurrent Delay**
 - ✓ **Pacing Delay**
 - ✓ **Free Float**
 - ✓ **Total Float**
- **Include Supplemental General Condition clause**
 - ✓ **Include written notice of pacing requirement**
 - ✓ **Include preparation/submittal of written pacing plan**
 - ✓ **Require submittal of pacing plan to owner prior to implementation**
 - ✓ **Require negotiation of pacing plan & mitigation costs**

Pacing Delay – Conclusion

- Pacing delay legitimate business decision when contractors encounter owner delay
- Contractors have legal right to pace owner delay
 - ✓ Not obligated to “hurry up & wait”
 - ✓ Not obligated to “maintain original schedule”
 - ✓ Not obligated to “diligently pursue work” in face of owner delay
- Risks of pacing
 - ✓ Decreases recovery of delay time & damages
 - ✓ May not be able to recover pacing’s impact costs
 - ✓ Pacing may become CP delay if owner solves delay

Pacing Delay – Conclusion

- Contractors seeking to increase recovery for owner delay should not pace delay
 - ✓ Cost recovery will increase if maintain original schedule
 - ✓ But, may risk of owner defending on basis of “failure to mitigate delay”
- If contractor determines pacing cost effective
 - ✓ Provide prompt written notice of pacing to owner
 - ✓ Prepare & submit written pacing plan identifying pacing mitigation costs vs longer delay costs
 - ✓ Obtain approval on pacing plan from owner
 - ✓ Negotiate entitlement to pacing costs
 - ✓ Track & document pacing costs

QUESTIONS?

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